ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9201170204 DOC.DATE: 92/01/10 NOTARIZED: NO DOCKET #
FACIL:50-287 Oconee Nuclear Station, Unit 3, Duke Power Co. 05000287
AUTH.NAME AUTHOR AFFILIATION
BENESLOE,S.G. Duke Power Co.
HAMPTON,J.W. Duke Power Co.
RECIP.NAME RECIPIENT AFFILIATION

SUBJECT: LER 91-009-00:on 911201,TS required containment integrity valve found mispositioned during force outage due to unknown cause.Controlling procedure for unit startup & shutdown will be revised.W/920110 ltr.

DISTRIBUTION CODE: IE22T COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 9
TITLE: 50.73/50.9 Licensee Event Report (LER), Incident Rpt, etc.

NOTES:

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD2-3 LA	1	1	PD2-3 PD	1	1
	WIENS,L	1	1			
INTERNAL:	ACNW	2	2	ACRS	2	2
	AEOD/DOA	1	1	AEOD/DSP/TPAB	1	1
	AEOD/ROAB/DSP	2	2	NRR/DET/ECMB 9H	1	1
	NRR/DET/EMEB 7E	1	1	NRR/DLPQ/LHFB10	1	1
	NRR/DLPQ/LPEB10	1	1	NRR/DOEA/OEAB	1	1
	NRR/DREP/PRPB11	2	2	NRR/DST/SELB 8D	1	1
	NRR/DST/SICB8H3	1	1	NRR/DST/SPLB8D1	1	1
	NRR/DST/SRXB 8E	1	1	REG FILE 02	1	1
	RES/DSIR/EIB	1	1	RGN2 FILE 01	1	1
EXTERNAL:	EG&G BRYCE,J.H	3	3	L ST LOBBY WARD	1	1
	NRC PDR	1	1	NSIC MURPHY,G.A	1	1
	NSIC POORE,W.	1	1	NUDOCS FULL TXT	1	1

NOTE TO ALL "RIDS" RECIPIENTS:

PLEASE HELP US TO REDUCE WASTE! CONTACT THE DOCUMENT CONTROL DESK, ROOM P1-37 (EXT. 20079) TO ELIMINATE YOUR NAME FROM DISTRIBUTION LISTS FOR DOCUMENTS YOU DON'T NEED!

FULL TEXT CONVERSION REQUIRED
TOTAL NUMBER OF COPIES REQUIRED: LTTR 33 ENCL 33

R I D S / A D D S

Duke Power Company
Oconee Nuclear Generation Department
P.O. Box 1439
Seneca, SC 29679

J.W. HAMPTON
Vice President
(803)885-3499 Office
(704)373-5222 FAX

DUKE POWER

January 10, 1992

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
LER 287/91-09

Gentlemen:

Pursuant to 10 CFR 50.73 Sections (a)(1) and (d), attached is Licensee Event Report (LER) 287/91-09, concerning a mispositioned valve.

This report is being submitted in accordance with 10 CFR 50.73 (a)(2)(i)(B). This event is considered to be of no significance with respect to the health and safety of the public.

Very truly yours,

J. W. Hampton
J. W. Hampton
Vice President

/ftr

Attachment

xc: Mr. S. D. Ebneter
Regional Administrator, Region II
U.S. Nuclear Regulatory Commission
101 Marietta St., NW, Suite 2900
Atlanta, Georgia 30323

Mr. L. A. Wiens
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Mr. P. E. Harmon
NRC Resident Inspector
Oconee Nuclear Station

INPO Records Center
Suite 1500
1100 Circle 75 Parkway
Atlanta, Georgia 30339

M&M Nuclear Consultants
1221 Avenue of the Americas
New York, NY 10020

IE22
111

NRC FORM 366 (6-89)

U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104
EXPIRES: 4/30/92

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)	DOCKET NUMBER (2)	PAGE (3)
Oconee Nuclear Station, Unit 3	0 5 0 0 0 2 8 7	1 OF 0 8

TITLE (4) Technical Specification Required Containment Integrity Valve Found Mispositioned During Forced Outage Due to Unknown Cause, Possible Inappropriate Action

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAMES	DOCKET NUMBER(S)
1 1	3 1	9 1	9 1	— 0 0 9 —	0 0	0 1	1 0	9 2		0 5 0 0 0
										0 5 0 0 0

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more of the following) (11)			
POWER LEVEL (10)	- 0 -	[ ] 20.402(b)	[ ] 20.405(c)	[ ] 50.73(a)(2)(iv)	[ ] 73.71(b)
		[ ] 20.405(a)(1)(i)	[ ] 50.36(c)(1)	[ ] 50.73(a)(2)(v)	[ ] 73.71(c)
		[ ] 20.405(a)(1)(ii)	[ ] 50.36(c)(2)	[ ] 50.73(a)(2)(vii)	[ ] OTHER (Specify in Abstract below and in Text, NRC Form 366A)
		[ ] 20.405(a)(1)(iii)	[X] 50.73(a)(2)(i) (B)	[ ] 50.73(a)(2)(viii)(A)	
		[ ] 20.405(a)(1)(iv)	[ ] 50.73(a)(2)(ii)	[ ] 50.73(a)(2)(viii)(B)	
		[ ] 20.405(a)(1)(v)	[ ] 50.73(a)(2)(iii)	[ ] 50.73(a)(2)(x)	

LICENSEE CONTACT FOR THIS LER (12)

NAME	TELEPHONE NUMBER (AREA CODE)
S. G. Benesole, Safety Review Manager	8 0 3 8 8 5 - 3 5 1 8

COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFAC-TURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)		EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
[ ] YES (If yes, complete EXPECTED SUBMISSION DATE)	[X] NO				

ABSTRACT (Limit to 1400 spaces, i.e., approximately fifteen single-space typewritten lines) (16)

The Unit 3 Reactor Building containment is supplied with Instrument Air (IA) through a three-inch line with normally closed isolation valves (3IA-90 and 3IA-91) on either side of containment. On December 1, 1991 at approximately 2130 hours and with Unit 3 at cold shutdown conditions, a non-licensed operator who had been sent to open 3IA-91 (inside the Reactor Building) discovered the valve in the open position. Investigation could not determine when the valve was last opened. The other isolation valve, outside the RB, was found closed. It was conservatively assumed that 3IA-91 had been open since March 22, 1991 at 1550 hours. Unit 3 operated with the Reactor Coolant System (RCS) above 200 degrees F and 300 psig, the conditions required by Technical Specifications for containment integrity, from March 22, 1991 at 1550 hours to March 24, 1991 at 1130 hours and from March 27, 1991 at 1900 hours to November 23, 1991 at 1720 hours. The root cause of this event is considered unknown, possible inappropriate action. Corrective actions included changes to the method of documentation of this and other routinely operated containment integrity valves.

BACKGROUND

Instrument Air (IA) [EIIS:LJ] is a compressed air system which supplies various instruments, controls, and valves. Instrument Air is supplied to the Reactor Buildings (RB) [EIIS:NH] for maintenance purposes. During normal power operation the IA supply to containment (Reactor Building) is not required and is isolated. A three-inch IA supply line penetrates the Reactor Building and uses two manual block valves, IA-90 (outside containment) and IA-91 (inside containment) as isolation valves.

3IA-91 is a three-inch ball valve. A 15-inch bar with 90 degree movement is used as a handle. When the bar is perpendicular to the instrument air line, the valve is closed. When the bar is parallel to the instrument air line, the valve is open. The valve is located on the second floor of the Reactor Building in a pipe chase approximately five feet above the floor level. It is not in an area of high traffic. It is labeled with its own identification tag and a tag which identifies it as a containment integrity valve requiring Shift Supervisor approval prior to opening.

One of the requirements for containment integrity, as defined in Technical Specification (TS) 1.7.c, is that "All non-automatic containment isolation valves and blind flanges are closed as required." TS 3.6.1 requires that containment integrity be established when Reactor Coolant System (RCS) [EIIS:AB] pressure is greater than or equal to 300 psig, RCS temperature is greater than or equal to 200 degrees F, and fuel is in the core. TS 3.6.1.c allows the inoperability of a containment isolation valve provided the affected penetration is isolated within four hours by the use of a closed manual valve. A TS interpretation of TS 3.6.1.c states that a manually operated valve (used to isolate a penetration in which one containment isolation valve is inoperable) need not be locked, but administrative control should include tagging the operator.

Event Description

On March 21, 1991 at 1654 hours, Unit 3 had completed a refueling outage and was in preparation for startup. Enclosure 13.1 (Inside Reactor Building Manual Isolation Valve Checklist) and Enclosure 13.2 (Inside Reactor Building Manual Isolation Valve Checklist Verification) of PT/3/A/115/08, Reactor Building Containment Isolation and Verification, were performed. The inner manual isolation valve for the Instrument Air (IA) supply to the Reactor Building (RB), 3IA-91, was closed and independently verified closed at this time. Both of these enclosures are required to be performed when starting up from a refueling outage. At 1736 hours, the Reactor Coolant System (RCS) was heated above 200 degrees F, the point above which containment integrity is required by Technical Specifications (TS).

On March 22, 1991 at 1332 hours, with the reactor in the process of starting up, both IA isolation valves, 3IA-90 and 3IA-91, were opened and documented as open using OP/0/A/1102/06, Removal and Restoration of Station Equipment. The valves were reclosed and independent verification of closure performed at 1550 hours.

Heatup of the RCS continued until hot shutdown conditions were reached. An inspection showed that leakage in the incore tank area would require that the unit return to cold shutdown conditions (less than 200 degrees F) for repairs. On March 24, 1991 at approximately 1130 hours, RCS temperature and pressure were brought below 200 degrees and 300 psig.

On March 27, 1991 at 1305 hours, Enclosure 13.2 of PT/3/A/115/08, Reactor Building Containment Isolation and Verification, was performed. Enclosure 13.1 is not required when startup is following a forced outage. The checklist again verified that 3IA-91 was closed. At 1900 hours, the RCS temperature and pressure were again taken above 200 degrees F and 300 psig. The RCS remained above these limits until November 23, 1991.

Several entries into the Reactor Building were performed between March 27, 1991 and November 6, 1991:

On May 25, 1991, with the unit operating at approximately 44 percent full power, Instrument and Electrical (I&E) personnel entered the RB to calibrate Core Flood (CF) [EIIS:BP] tank level instruments.

On May 31, 1991, with the unit operating at 100 percent full power, I&E technicians performed CF tank level transmitter string checks.

On June 20, 1991, with the unit operating at 100 percent full power, Maintenance technicians performed repair on valve 3SSF-SF-82 (Reactor Coolant Makeup Pump Suction Valve).

On September 5, 1991, with the unit operating at 100 percent full power, Maintenance technicians performed repairs on valve 3RC-6 (Pressurizer sample valve). These repairs continued on September 8 and 9, 1991.

On September 30, 1991, with the unit operating at 100 percent full power, I&E technicians performed repair and calibration of a pressurizer [EIIS:VSL] level train.

On October 23, 1991, with the unit operating at 100 percent full power, I&E technicians performed a core flood tank level calibration procedure.

On November 6, 1991, with the unit operating at 100 percent full power, I&E technicians repaired Bank 2 of the pressurizer heaters.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Oconee Nuclear Station	0 5 0 0 0 2 8 7	9 1	— 0 0 9 —	0 0	0 4 OF 0 8

TEXT (If more space is required, use additional NRC Form 366A's) (17)

The possibility that IA was used during the level calibrations was investigated. There are two methods of providing a calibration signal to the level transmitters in the Reactor Building (RB). One method is to open the instrument air supply valves and use a regulator with either an analog or digital Heise pressure gauge. Another method is to use a digital Heise gauge and a hand-held air pump. Interviews with the technicians who performed the level calibrations in question indicate that the second method, using the hand-held air pumps, was employed in each case. The I&E group maintains a database to track calibration of instrumentation. This database was searched for the work requests used for the level calibrations in the Reactor Building. It was found that digital Heise gauges were requisitioned for each of the Reactor Building entries in which level calibrations were performed. Hand-held air pumps were requisitioned for the first core flood tank level calibration and the pressurizer level calibration. The database did not contain the requisition information for the second core flood tank calibration work request.

On November 23, 1991 the unit was shut down, as described in LER 287/91-08, due to excessive RCS leakage. Cold shutdown conditions were achieved at 1720 hours. Several RB entries were made to perform valve lineups, decontaminate equipment, inspect equipment, and perform radiation and contamination surveys after November 25, 1991. On December 1, 1991 at approximately 2130 hours, non-licensed equipment operator A (NLO A) entered the Reactor Building to perform several valve lineups, including opening 3IA-91. When he reached 3IA-91, the valve was found fully open. He left the valve in this position and reported it to the Unit 3 Operations Supervisor.

NLO B had been dispatched to open 3IA-90 (located in the Auxiliary Building). This valve was found in the closed position at approximately 2130 hours.

The Unit 3 Supervisor checked all Removal and Restoration Enclosures on file and determined that there was no current documentation that 3IA-91 had been opened. Enclosure 13.1, Removal of Station Equipment, of OP/0/A/1102/06 was completed for the open IA valves and filed in the active Removal and Restoration book. An Operations Shift Incident Report was initiated on December 1, 1991.

The Removal and Restoration procedures used on Unit 3 from March 21, 1991 to December 1, 1991 were reviewed to determine if 3IA-91 had been documented as opened. Other than the one procedure, discussed above (issued and cleared on March 22, 1991), no such documentation was found.

The Compressed Air System procedure, OP/0/A/1106/27 contains an Enclosure 4.2 for opening IA-90 and IA-91 when conditions require containment integrity. The latest completed enclosure is kept on file. The last time this enclosure was used on Unit 3 was in 1989.

LICENSEE EVENT REPORT (LER)
TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Oconee Nuclear Station	0 5 0 0 0 2 8 7	9 1	— 0 0 9 —	0 0	0 5 OF 0 8

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Enclosure 13.4 of PT/3/A/115/08, Reactor Building Containment Isolation and Verification, which verifies the position of manual RB isolation valves outside of containment, is performed quarterly. Records indicate that this Enclosure was performed during the last startup from cold shutdown between March 25 and March 27, 1991, on June 12, 1991, and on September 11, 1991. On all occasions 3IA-90 was verified closed.

CONCLUSIONS

Investigation was unable to determine when 3IA-91 was left opened. The root cause of this event is considered unknown, possible inappropriate action.

The available documentation of the position of 3IA-91 indicates that the last time the valve was open was on March 22, 1991 from 1332 to 1550 hours. Independent verification was performed at 1550 hours that the valve had been closed. A further verification was performed on March 27, 1991 that the valve was in the closed position.

Of the various Reactor Building entries from March 27, 1991 to November 27, 1991, only three entries could possibly have required instrument air. These are the core flood tank calibrations on May 25, 1991 and October 23, 1991 and the pressurizer level calibration on September 30, 1991. Personnel interviews and available documentation indicate that instrument air was not used for any of these tasks. None of the work request information on any of the other Reactor Building jobs indicated that instrument air would be required, either for the actual maintenance or post-maintenance testing.

The three most probable explanations for the mispositioning of 3IA-91 are:

1) The valve was opened, either intentionally or inadvertently, during the forced outage beginning on November 23, 1991 and not properly documented. Only three equipment operators, other than NLO A, had entered the Reactor Building between November 23 and November 30, 1991. Interviews indicated that none of these operators opened 3IA-91 or even entered the pipe chase area where 3IA-91 is located. Accidental operation by someone bumping against the valve handle is not likely since the valve is located in an infrequently travelled area and was found fully open, not partially opened.

2) The valve was inadvertently opened during one of the entries at power with the mistaken idea that it would be needed for maintenance. Again, documentation was not provided.

3) The valve was opened during the forced outage of March 24, 1991 to March 27, 1991, not documented, and mistakenly verified closed on March 27, 1991.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Oconee Nuclear Station	0 5 0 0 0 2 8 7	9 1	— 0 0 9 —	0 0	0 6 OF 0 8

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Since the actual explanation could not be determined, a conservative assumption is that the valve had remained opened and unattended from the time that documentation last indicated it was open until the time of discovery. This time period begins on March 22, 1991 at 1550 hours and ends December 1, 1991 at 2130 hours. In this time period, containment integrity was required from 1550 hours on March 22, 1991 until 1130 hours on March 24, 1991 and from 1900 hours on March 27, 1991 until 1720 hours on November 23, 1991.

Technical Specifications allows the inoperability of one containment integrity valve, provided that the other downstream manual valve is closed. There is no evidence that 3IA-90, the outside containment valve, was opened at any time during the assumed time of inoperability (open position) of 3IA-91. In fact, 3IA-90 was verified closed on two different occasions in that time span and was found in the closed position during the IA valve lineup.

The intent of Technical Specifications is to maintain a double isolation of containment penetrations, if possible, whenever the Reactor Coolant System (RCS) is above 200 degrees F and 300 psig. That intention was not met by leaving 3IA-91 open.

A Technical Specification interpretation exists which states that administrative controls used to keep the second manual containment isolation valve closed when the first valve becomes inoperable should include tagging. Tagging was not used as an administrative control, since it was not known that the valve inside the Reactor Building was open. Other administrative controls, such as Removal and Restoration procedures and Enclosure 4.2 of OP/0/A/1106/27, Compressed Air System, were available. It is noted that the Removal and Restoration procedure was used to document the IA penetration valves as open from 1332 to 1550 hours on March 22, 1991. Although this procedure can be used for this purpose, it is not the most desirable method. Enclosure 4.2 of the Compressed Air System procedure gives more specific instructions to station a person at 3IA-90 to close the valve if necessary and to document the valve as open on the Reactor Operator Shift Turnover Sheet. Removal and Restoration procedures are often used to document the open position of Reactor Building instrument air, breathing air, and demineralized water supplies during outages. A standard procedure for opening and reclosing these valves would help to eliminate the confusion in documenting the status of these penetrations.

There have been other events in the past two years which have been caused by mispositioned components. On November 1, 1990, 2FDW-89, The Turbine Driven Emergency Feedwater [EIIS:BA] pump minimum recirculation valve was found locked closed instead of open (Problem Investigation Report 2-090-0110). The root cause was attributed to inappropriate action, lack of attention to detail. On June 6, 1991, while Unit 1 was operating at 15 percent full power, 1SSF-HP-405 was found open (Problem Investigation Report 1-090-0056.) The root cause was attributed to management deficiency, lack of procedural control due to deficient procedure preparation and issuance.

The lower tier investigation program in the Operations Group tracks records of mispositioned components. Their results show that there have been 33 mispositioned components during 1991, down from 40 in 1990. The incidents can be grouped into several causes which include inappropriate action and procedural errors. In light of this data, the event is considered recurring.

As stated above, the root cause of this event is considered unknown, possible inappropriate action. It is not known when or how 3IA-91 was opened, but the most likely explanations all point to the valve being opened without proper documentation. This led to a failure to close the valve when required. The fact that the proper documentation was probably not used is the reason for classifying the cause of this event as a possible inappropriate action.

There were no personnel injuries associated with this event. There was no NPRDS reportable equipment failure.

CORRECTIVE ACTIONS

Immediate

None

Subsequent

1. The valve was procedurally documented as open.

Planned

1. Since Reactor Building services are normally provided during an outage, the services should be aligned and isolated in a more controlled manner. The controlling procedure for unit startup and the controlling procedure for unit shutdown will be revised to control these services, including instrument air.

2. Operations will reemphasize positive control of containment isolation valves and personal responsibility of operators in assuring these valves are closed when required.

NRC FORM 366A (6-89) U.S. NUCLEAR REGULATORY COMMISSION

APPROVED OMB NO. 3150-0104 EXPIRES: 4/30/92

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

ESTIMATED BURDEN PER RESPONSE TO COMPLY WTH THIS INFORMATION COLLECTION REQUEST: 50.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE RECORDS AND REPORTS MANAGEMENT BRANCH (P-530), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1)	DOCKET NUMBER (2)	LER NUMBER (6) YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	PAGE (3)
Oconee Nuclear Station	0 5 0 0 0 2 8 7	9 1	— 0 0 9	— 0 0	0 8 OF 0 8

TEXT (If more space is required, use additional NRC Form 366A's) (17)

SAFETY ANALYSIS

Section 6.2.3.1 of the Final Safety Analysis Report (FSAR), "Design Bases of Containment Isolation Systems", states that "leakage through all fluid penetrations not serving accident-consequence limiting systems is to be minimized by a double barrier so that no single, credible failure or malfunction of an active component can result in loss of isolation or intolerable leakage." There are no active components installed in the instrument air containment penetration. The principal design basis of containment is a large break loss of coolant accident (LBLOCA) (FSAR Section 6.2.3.1).

With the inside containment valve (3IA-91) open, a failure would have to occur to the pipe between the penetration and the outer isolation valve (3IA-90) in order to breach containment and allow the escape of radioactive material from the Reactor Building. IA pressure is maintained at approximately 100 psig and the design basis pressure of containment is 59 psig (FSAR Section 6). A failure of 3IA-90 during a LBLOCA would most likely lead to instrument air leakage into containment. A pipe break between the penetration and 3IA-90 would release steam and radioactive material to the Penetration Room. Although the Penetration Room Ventilation System [EIIS:VC] would remove some radioactivity, the excessive leakage and consequent increase in humidity could adversely effect the filter efficiency and lead to an excessive release of radioactivity.

A local leak rate test was performed on the instrument air containment penetration on February 15, 1991. The test measures the leakage past each isolation valve individually. A differential pressure of 59 to 65 psig was applied to 3IA-90 and leakage past the valve from the Reactor Building side to the Auxiliary Building side was measured. The results met the test acceptance criteria, indicating that with 3IA-90 closed, even with 3IA-91 open, the containment penetration could meet its design basis pressure.

The FSAR assumptions of containment leakage for both LBLOCAs (Section 15.14.10) and the Maximum Hypothetical Accident (Section 15.15) is 0.25 percent Reactor Building volume per day. Considering the local leak rate test results and the evidence that 3IA-90 was closed at all times during this event, it is evident that the actual leak rate during an accident would not have exceeded this value unless a pipe rupture occurred between the penetration and 3IA-90, as described above. The probability of this type of failure in conjunction with a LBLOCA is considered low and not within the design and licensing basis of Oconee.

Although the Reactor Building was not challenged by excessive internal pressures during the assumed time period in which 3IA-91 was open, a leak of up to 90 gpm of reactor coolant did occur on November 23, 1991. Excessive leakage from the Reactor Building to the Auxiliary Building did not occur during the course of that event.

The health and safety of the public were not compromised by this event.